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Comment on ARQ article "Mind the evaluation gap: reviewing the assessment of architectural research in the Netherlands" by Frank van der Hoeven

Letter to the Editor

What has science got to do with it?

Frank van der Hoeven's explanation of the system for assessing research in The Netherlands (reference) invites comparison with UK research cultures and the UK REF (Research Excellence Framework).

The article notes that architecture as a design discipline doesn't fit easily into research assessment regimes, especially in so far as research quality is judged through the ranking of journals.

It seems that research assessment in The Netherlands also involves visits to research centres, suggesting that the assessment process is geared towards resource intensive large-scale organisations, facilities and laboratories.

Van der Hoeven is at the Architecture Faculty at TU Delft, which is such a large organisation. Comparing the population size of the two countries, and the numbers of architecture schools in each, it's a fair guess that architectural education and research in the Netherlands is concentrated in a few institutions. Contrast this with the dispersal evident in the UK. I suspect the same applies to other disciplines. This is bound to account for some of the differences in approach to research assessment between the two countries.

The quote from the 1997 assessment of Architecture at TU Delft is sobering: that architecture is neither science nor technology, and not as empirical as social science, is centred on the impact of distinctive individuals, and architecture depends on intuition, ideas and sometimes on ideology. Van der Hoeven indicates that this summary is not so much an indictment of architecture as an admission of the inadequacies of The Netherlands Organisation for Scientific Research (NWO) who conduct the institutional research assessment. They seem unable to cope with the diversity of research within universities.

One conclusion from the article is that architecture at TU Delft suffers from being in a technical university, and might fare better in a university that specialises in the humanities.

The recommendations in the concluding section of van der Hoeven's article seem sound to me given the research climate in The Netherlands as described.

However, I do have difficulty with the article's concluding remark that architecture must get "the basics of its own scientific foundations right," an assumption that pervades the rest of the article, and, more significantly, the Dutch research assessment process.

I generally have taken references to "science" in Continental research projects, conferences and publications with a pinch of salt, and happily substituted the word "research" where I see a peer review panel designated as a "scientific committee" or sound scholarship in various ways equated to science.

This article however highlights problems of deploying a particular conception of science as the benchmark for what constitutes quality research.

The UK REF makes no such assumptions about research. In any REF criteria documents the idea of “scientific underpinnings” appears only in reference to the natural sciences, and not at all in reference to the technology disciplines, social sciences, arts and humanities.

The Netherlands’ model is suggestive less of science than *scientism*, about which much has been written in the academic literature as well as the popular press in the UK.

The critique of scientism and its variants is standard fare in textbooks on the philosophy of science. Consider this account from A.F Chalmers’ *What is This Thing Called Science?*, (still in print since 1976) of what he terms naïve inductivism. There’s a popular view that: “Scientific knowledge is proven knowledge. Scientific theories are derived in some rigorous way from the facts of experience acquired by observation and experiment ... Personal opinion or preferences and speculative imaginings have no place in science.” (p.1) He then marshals the full weight of 20th century philosophy to refute this naïve conception of science. The criticism from philosophy of science is not just against those who seek to apply scientific principles and processes to areas outside its legitimate domain, but that this popular view of what is science misrepresents science.

The beacons of the philosophy of science include Karl Popper, Thomas Kuhn, Paul Feyerabend, and Bruno Latour who refute scientism from various angles: arguing that scientific observations are theory and value laden, science takes place within communities, science can be anarchic, etc, all suggesting that science is as dependent on processes of interpretation, community, and tradition as any aspect of the humanities. The field of research known as STS (science and technology studies) adds talk of socio-technical systems, the co-dependence of science, technologies, instruments and social relations.

Count the encyclopaedist, systematizer and educational reformer Peter Ramus (1515-1572), the Dutch rationalist philosopher Baruch Spinoza (1632-1677) and the philosophers of the Enlightenment amongst the champions of the view that science provides an overarching measure of rationality and understanding.

But scientism had its heyday with the movement known as logical positivism that developed with the Vienna Circle in the 1920s. Under similar influences Ludwig von Bertalanffy was promoting his General Systems Theory (GST) that sought to codify the processes underpinning nature, all the sciences, engineering, human organisation, economics, and even design.

Because of their promise of providing instruments for making decisions and controlling organisations, such encyclopaedism, logical positivism, systems theory and the attendant optimistic scientism have been major influences in management, public administration and education. Scientism instils amongst many a sense of a plan and promises resolution in the event of a social crisis. With its pretence at rationality and externality, and rendering decision-making processes explicit that are otherwise hidden, it suggests public accountability.

The management scientist, Herbert Simon was such an optimistic systematiser. He said in *The Sciences of the Artificial* in 1969

“The professional schools will reassume their professional responsibilities just to the degree that they can discover a science of design, a body of intellectually tough, analytic, partly formalizable, partly empirical, teachable doctrine about the design process.” (p.58)

Early systems theory suggests that by logical rules, tables and charts, and that by laying complex issues out on a table or graph one achieves a satisfactory overview. Everything is in its right box. There’s also a bureaucratic strand to this latter day Ramism: the

bureaucratisation of knowledge, concepts illustrated in the checklists and self-evaluation tables that pervade research assessment in some quarters, and as illustrated well in van de Hoeven's article.

This rationalist tendency is evident in the UK, as is the idea of assigning numbers and "quality profiles" to performance in the REF.

But this positivist inclination is moderated in UK education and research fields by a pragmatic liberalism. The liberal influence of the American philosopher John Dewey is well-represented in the writings of theorists of education, organisation, urban studies and design Chris Argyris and Donald Schön who offer polite riposte to Simon's systematisation, highlighting the complex interplay of problem setting, reflection, action, interpretation and metaphor within professional life and human rationality.

Research in the UK seems to be characterised by a pluralism so informed. In some quarters there's a recognition that there are many research paradigms, models, and views in play that are often critical of one another. The differences are for peer review groups to resolve or accommodate. Public accountability is important, and even social, cultural and economic impact, but these do not require putative scientific methods for their assessment, or the requirement that all researchers see their work as science.

In the United Kingdom there are eight major government-sponsored research funding councils, supporting science, medicine, engineering and the social sciences. The most recently formed funding body is the Arts and Humanities Research Council (AHRC) that explicitly encourages, and funds, art and design practice as modes of research, and creative works, exhibitions, designs, buildings, compositions and performances as research output.

In its documentation and practice, this research council seems genuinely led by a desire to assert subject matter, approaches and methods that come from within the arts and humanities, without needing to draw on the authority and techniques of science. This liberal approach seems currently to be mirrored in the REF.

There are threats to the arts and humanities. The UK government intends to drop central funding for non-STEM subjects in Universities (ie subjects outside of science, technology, engineering and mathematics), with the shortfall to be met by student fees. But whatever this means for the arts and humanities it does not suggest, or require, the re-introduction of a new bureaucratic scientism to research policy in the country.

Architectural practice has long decided that there was no need to appeal to science to legitimate its activities, and the studio teaching method, with its open-ended, dialogical and materially-based practices has re-asserted itself as a highly respected model of education, and of research.

Doubtless there are battles to be waged in the UK HE sector, but not against science.

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References

- Argyris, Chris, and Donald A. Schön. 1974. *Theory in Practice: Increasing Professional Effectiveness*. San Francisco: Jossey-Bass.
- Chalmers, Alan F. 1999. *What is this thing called science?* Indianapolis, IN: Hackett Pub Co.
- HEFCE. 2011. *REF2014: Assessment Framework and Guidance on Submissions*. Bristol: Higher Education Funding Council for England.
- Simon, Herbert. 1969. *The Sciences of the Artificial*. Cambridge: MIT Press.